

RADIATOR WITH SIDE FLAT TUBES

ABSTRACT OF THE DISCLOSURE

A vehicle radiator including inlet and outlet headers, a soldered core having a plurality of coolant flat tubes joining the inlet header and the outlet header with cooling fins on opposite sides of the coolant flat tubes, and a multifunction flat tube on at least one side of the core. The multifunction flat tube has a greater section modulus than the coolant flat tubes, and is soldered to adjacent cooling fins and the inlet and outlet headers whereby the multifunction flat tube carries coolant from the inlet header to the outlet header.

The multifunction flat tubes each also have an inner flow resistance which is substantially smaller than the inner flow resistance of individual coolant flat tubes whereby more coolant flows through each multifunction flat tube than flows through an individual coolant flat tube per unit time.